



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/047,553

10/26/2001

George Lownes

MATP-616US

4175

23122

7590

12/01/2005

RATNERPRESTIA

P O BOX 980

VALLEY FORGE, PA 19482-0980

EXAMINER

PARRY, CHRISTOPHER L

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/047,553	LOWNES, GEORGE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Chris Parry	2614	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/26/01, 03/19/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Even though the existence of flash memory is well known in the art, the disclosure lacks evidence of wherein memory comprised in the smart card is flash memory as cited in claim 6.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Prus et al. "Prus" (U.S. 2005/0144651).

Regarding Claim 1, Prus teaches the method for updating a set-top receiver operating system software using a smart card. Prus teaches "providing a smart card

Art Unit: 2614

including data representing upgraded software for the host device” by disclosing bootloader 300 can load (to DRAM 250) a software image through smart card 129 (FIG. 1) (§ 25). Prus teaches “interfacing the smart card with the smart card interface of the host device” by disclosing smart card 129 interfaces with data port 127 as shown in figure 1. Prus teaches “recognizing, in the host device, the smart card as including the upgraded software” by disclosing once the reset is performed in block 301, then in block 304 the DRAM memory 250 is enabled and the presence of a smart card 129 at data port 127 is determined (§ 32). Prus teaches “transferring the upgraded software from the smart card to a memory of the host device to perform the code upgrade” by disclosing at block 308 the bootloader 300 will load an executable image from the smart card into DRAM 250, and subsequently, into flash memory 200 (§ 33).

4. Claims 5-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Diehl et al. “Diehl” (U.S. 5,835,864).

Regarding Claim 5, Diehl teaches “a smart card for providing a code upgrade to an open cable compliant host device, comprising a memory for holding upgraded software for delivery to the host device, the memory also including a card information structure (CIS) for identifying the smart card as a code upgrade card” by disclosing in figure 5, smart card 5 comprises CPU connected to memory. Diehl teaches smart card 5 interacts with decoder 6 by resetting decoder 6 (steps 21 and 41 in FIGS. 7 and 9, respectively; presenting an application identifier to decoder 6; transmitting to decoder 6

Art Unit: 2614

the data contained in a table, the table comprising different values for customization (Col. 2, lines 34-56).

As for Claim 6, Diehl teaches, “the memory is a flash memory” by disclosing EEPROM in smart card 5 (Col. 3, lines 3-10).

As for Claim 8, Diehl teaches “a smart card, further including identification data which identifies a host compliant device for which the upgraded software is intended” by disclosing decoder 6 can identify the installed smart card 5 and therefore must have identification data which identifies a decoder for which the software is intended.

5. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by McClellan et al. “McClellan” (U.S. 5,619,250).

Regarding Claim 13, McClellan teaches, a method of providing system upgrades by using PCMCIA cards. McClellan teaches “providing a smart card including the software upgrade for transfer to the host device” by disclosing a PCMCIA card can be provided to PCMCIA interface 52 to provide system upgrades to decoding system 10 (Col. 7, lines 58-65). McClellan teaches, “the smart card with a POD interface of the host device” by disclosing the use of a PCMCIA interface 52 or “POD interface” in figure 2. McClellan teaches “resetting the host device” by disclosing when decoding system 10 is reset, new modules or PCMCIA cards are identified (Col. 6, lines 46-50). McClellan teaches, “reading and processing a code information structure (CIS) of the smart card to identify the smart card as providing the software upgrade” by disclosing upon

Art Unit: 2614

initialization of the system (10), each system module is identified. Also, a corresponding description record for each module is identified. A configuration description block is created into which each description record is placed. The configuration description block thus provides for a summary of the capabilities of the operating system. The configuration description block is not created each time the system is initialized but instead is modified each time a new module is added to the system (Col. 6, lines 47-56). McClellan teaches "reading the software upgrade of the smart card and writing the software upgrade to a memory of the compliant host device" by disclosing When a new module is downloaded from the interactive television system, it can either be placed in RAM (14) or FLASH memory (50). As discussed previously, if the new module is placed in RAM (14), it will be lost when the system is shut off or reinitialized. However, if the new module is placed in FLASH memory (50) the module will remain even after the system has been shut off or reinitialized. Thus, the FLASH memory (50) allows for system upgrades to be extended beyond the current session (Col. 8, lines 15-23).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prus in view of OpenCable Specification (as cited by applicant).

As for Claim 2, Prus teaches, "accessing a...smart card" by disclosing the processing during the start up phase of the bootloader 300 of FIG. 2 (§§ 32-33). In block 301, the set-top receiver 150 is reset and the bootloader runs a check to determine if a smart card was inserted (§§ 32-33). However, Prus fails to explicitly disclose bootloader accessing the CIS of the smart card. In applicants admitted prior art, disclosed is the use of a universal set-top box hardware and software platform that has been developed by North American cable operators known as the OpenCable standard. The OpenCable Specification discloses the CIS of a smart card shall be readable whenever the POD module is powered and has been reset by the host (Section 5.3 Card Information Structure). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Prus with the teachings of the OpenCable Specification in order to access the CIS of the smart card for the benefit of complying with the OpenCable standard in order to facilitate desired portability and interoperability of universal set-top boxes.

Regarding Claim 9, Prus teaches, "...[an] interface" by disclosing data port 127 in figure 1, which can receive software input from a portable memory element, commonly known as a smart card 129 (§§ 22). Prus teaches, "a smart card, coupled to the...interface" by disclosing data port 127 can receive software input from a portable memory element, commonly known as a smart card 129 (§§ 22). Prus teaches, "a processor, coupled to the...interface" by disclosing CPU 119 as shown in figure 1. Prus

Art Unit: 2614

teaches, "memory, coupled to the processor" by disclosing CPU 119, communicates with DRAM 250, NVRAM 126, and with flash memory 200 via communication bus 114 (§ 20). Prus teaches the memory includes instructions comprising "operational software that controls the set top box" by disclosing DRAM 250 in FIG. 2 is configured during the download of operating system/control program software from the head end 101 (FIG. 1). DRAM 250 includes a number of different portions. For example, portion 254 includes control structures for the downloaded software (§ 23). Prus teaches "a bootstrap loader which is configured to control the processor to transfer program data from the POD interface to the memory to overwrite the operational software" by disclosing bootloader 300, which controls the loading of an executable image from smart card 129 into DRAM 250 (§ 32-33). Prus fails to explicitly disclose an open cable compliant set top box comprising a point of deployment interface. In applicants admitted prior art, disclosed is the use of a universal set-top box hardware and software platform that has been developed by North American cable operators known as the OpenCable standard. The OpenCable Specification discloses the system architecture for an OpenCable set-top box must comprise a POD module interface configured to accept a POD module (Section 3). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Prus with the teachings of the OpenCable Specification in order for an open cable compliant set top box comprising a point of deployment interface for the benefit of complying with the OpenCable standard in order to facilitate desired portability and interoperability of universal set-top boxes.



As for Claim 10, Prus teaches “[a] smart card...which identifies the smart card as a software update card” by disclosing the processing during the start up phase of the bootloader 300 of FIG. 2. In block 301, the set-top receiver 150 is reset and the bootloader runs a check to determine if a smart card was inserted. If there is a smart card present in set-top receiver 150 and the smart card responds with the correct override code, then in block 308 the bootloader 300 will load an executable image from the smart card into DRAM 250, and subsequently, into flash memory 200, as described above with respect to FIG. 2. In block 316, the bootloader 300 executes the newly acquired control program software instead of the remainder of the bootloader code. This aspect of the invention provides the method to correct the situation in which there is a serious anomaly, or bug, in the bootloader code (§§ 32-33). However, Prus fails to explicitly disclose bootloader accessing the CIS of the smart card. In applicants admitted prior art, disclosed is the use of a universal set-top box hardware and software platform that has been developed by North American cable operators known as the OpenCable standard. The OpenCable Specification discloses the CIS of a smart card shall be readable whenever the POD module is powered and has been reset by the host (Section 5.3 Card Information Structure). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Prus with the teachings of the OpenCable Specification in order to access the CIS of the smart card for the benefit of complying with the OpenCable standard in order to facilitate desired portability and interoperability of universal set-top boxes.

As for Claim 11, Prus fails to explicitly disclose smart card 120 conforming to standards adopted by one of the personal computer memory card international association (PCMCIA) and the Japan electronic industry development association (JEIDA). In applicants admitted prior art, disclosed is the use of a universal set-top box hardware and software platform that has been developed by North American cable operators known as the OpenCable standard. The OpenCable Specification discloses POD Modules conform to PCMCIA standards (Section 5). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Prus with the teachings of the OpenCable Specification in order to disclose a smart card adopted by PCMCIA or JEIDA for the benefit of complying with the OpenCable standard in order to facilitate desired portability and interoperability of universal set-top boxes.

As for Claim 12, Prus teaches, "the smart card further includes identification data which identifies a host compliant device for which the upgraded software is intended" by disclosing set-top box 150 can identify a smart card when inserted into data port 127, and bootloader 300 will load the executable image from the smart card onto DRAM 250 (¶¶ 32-33) Therefore, smart card 129 must include identification information so the set-top box can recognize the card. Prus teaches "the memory further includes software that causes the processor to read the identification data from the smart card and to compare the identification data to identification data for the set top box; whereby the processor determines if the software update is appropriate for the set-top box" by disclosing flash memory 200 includes memory portion 201 in which the downloaded

operating system/control program is stored, or is written to from DRAM 250, and also includes sector 257 in which the bootloader code 300 of the present invention resides. The bootloader 300 is a set of instructions that is executed directly by the CPU 119 within set-top receiver 150 immediately upon reset of the set-top receiver 150 (§ 24-25). Further, Prus discloses the bootloader 300 will load an executable image from the smart card into DRAM 250, and subsequently, into flash memory 200, as described above with respect to FIG. 2. In block 316, the bootloader 300 executes the newly acquired control program software instead of the remainder of the bootloader code (§ 33).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus in view of ATSC standard (as cited by applicant).

As for Claim 3, Prus teaches, “[a] smart card...[and] recognizing the smart card as including the upgraded software” by disclosing in block 306 it is determined whether the presence of a smart card was detected in block 304. If there is a smart card present in set-top receiver 150 and the smart card responds with the correct override code, then in block 308 the bootloader 300 will load an executable image from the smart card into DRAM 250, and subsequently, into flash memory 200, as described above with respect to FIG. 2. In block 316, the bootloader 300 executes the newly acquired control program software instead of the remainder of the bootloader code. This aspect of the invention provides the method to correct the situation in which there is a serious anomaly, or bug, in the bootloader code by providing an upgrade to the set-top box (§ 33). However, Prus fails to explicitly disclose smart card 129 conforming the NRSS conditional access

protocol. In a related art pertaining to video distribution, ATSC standard discloses the host or set-top box has to support either NRSS Part A (smart card) or NRSS Part B (PCMCIA) form factor (Section 4.4.1). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Prus with the teachings of the ATSC standard in order to comply with the NRSS protocol for the benefits associated with conforming to a well known conditional access standard.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus in view of OpenCable Specification and further in view of Kidder et al. "Kidder" (U.S. 2004/0031030).

As for Claim 4, Prus teaches, "[a] set top box, coupled to a cable head end and includes an out of band channel for transferring data between the host compliant device and the cable head end" by disclosing in figure 1, set-top receiver 150 comprises out-of-band transceiver 105 and communicates with head end 101. Prus fails to explicitly disclose using an open cable compliant set-top box and sending a message to the cable head end via the out of band channel to indicate that the upgraded software has been transferred to the host compliant device. In applicants admitted prior art, disclosed is the use of a universal set-top box hardware and software platform that has been developed by North American cable operators known as the OpenCable standard. The OpenCable Specification discloses the CIS of a smart card shall be readable whenever the POD module is powered and has been reset by the host (Section 5.3 Card Information Structure). In a related art pertaining to video distribution, Kidder discloses when an

upgrade is completed; the control shim notifies the slave SMSs, which sends a message to the master SMS or "head end" indicating that the upgrade of software is complete (§ 0494). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Prus with the teachings of Kidder in order to transmit a message to the headend indicating the installation of new software is completed for the benefit of notifying the headend of the latest version of software installed on the receiver.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diehl in view of McClellan et al. "McClellan" (U.S. 5,619,250).

As for Claim 7, Diehl fails to explicitly disclose smart card 5 conforming to standards adopted by the personal computer memory card international association (PCMCIA). In a related art pertaining to video distribution, McClellan discloses decoding system 10 comprising PCMCIA interface 52, which accepts PCMCIA card that can be used to provide system upgrades to decoding system 10 (Col. 7, lines 58-65).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Diehl with the teachings of McClellan in order for smart card to adopt to the PCMCIA standard for the benefit of conforming with a well known standard in the art.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over McClellan in view of Kidder.

McClellan fails to explicitly disclose decoding system 10 determining whether the software upgrade was successful and sending a message to the headend when the software upgrade was completed. In a related art pertaining to video distribution, Kidder discloses when an upgrade is completed; the control shim notifies the slave SMSs, which sends a message to the master SMS or "head end" indicating that the upgrade of software is complete (§ 0494). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McClellan with the teachings of Kidder in order to transmit a message to the headend indicating the installation of new software is completed for the benefit of notifying the headend of the latest version of software installed on the receiver.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents and publications are cited to further show the state of the art with respect to adding upgrade modules or cards to a set-top box.

U.S. Pat. No. 5,768,539 to Metz et al.

U.S. Pat. No. 6,694,396 to Candelore et al.

U.S. Pat. No. 6,452,616 to De Vito et al.

U.S. Pat. No. 6,154,633 to Landgraf et al.

U.S. Pub. No. 2002/0157115 to Lu

U.S. Pub. No. 2002/0113119 to Bessel et al.

Art Unit: 2614

U.S. Pat. No. 6,081,533 to Laubach et al.

U.S. Pat. No. 5,990,927 to Hendricks et al.


U.S. Pub. No. 2002/0101991 to Bacon et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris Parry whose telephone number is (571) 272-8328. The examiner can normally be reached on Monday through Friday, 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Initials: CLP  
November 18, 2005

  
Patent Examiner  
Art Unit 2614